

II. MAJOR PROGRAMME – AIR NAVIGATION

TABLE II – MAJOR PROGRAMME COST BY PROGRAMMES – AIR NAVIGATION

REGULAR BUDGET

	1999 Estimates	2000 Estimates	2001 Estimates
	(expressed in thousands of U.S. dollars)		
Major Programme II	7 989	7 630	7 704
Deduction for vacant posts	(645)	(693)	(778)
Total (after deduction for vacant posts)	<u>7 344</u>	<u>6 937</u>	<u>6 926</u>
2.1 Management, co-ordination and support	1 253	1 317	1 328
2.2 Aerodromes, Air Routes and Ground Aids (AGA)	356	365	347
2.3 Accident Investigation and Prevention (AIG)	510	499	511
2.4 Aeronautical Information Services and Aeronautical Charts (AIS/MAP)	667	685	698
2.5 Air Navigation Bureau (ANB)*	-	-	-
2.6 Air Traffic Management (ATM)	734	751	767
2.7 Communications, Navigation, and Surveillance (CNS)	735	719	743
2.8 Aviation Medicine (MED)	148	151	154
2.9 Aeronautical Meteorology (MET)	330	353	319
2.10 Operations/Airworthiness (OPS/AIR)	1 138	1 165	1 194
2.11 Personnel Licensing and Training and Audio-Visual Aids (PEL/TRG)	800	825	824
2.12 Multi-disciplinary or unspecified air navigation (AN) meetings	<u>673</u>	<u>107</u>	<u>41</u>
Total (after deduction for vacant posts)	<u>7 344</u>	<u>6 937</u>	<u>6 926</u>

* Elements relating to administrative matters are assimilated in Programme 2.1: Management, Co-ordination and Support.

INTRODUCTION

1. The major programme is derived from Articles 37 and 44 of the ICAO Convention. Its objectives are to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport.

2. In exercising its functions which are derived from Articles 37 and 44 of the Convention, the Air Navigation Bureau is responsible for:

- a) provision of expert Secretariat assistance required by the Assembly, the Council, the Air Navigation Commission and its panels and working groups, regional air navigation meetings and other air navigation meetings;
- b) preparation of studies and documentation for consideration by the Air Navigation Commission;
- c) preparation of commentaries on recommendation of air navigation meetings for international Standards, Recommended Practices and Procedures for submission to the Air Navigation Commission;
- d) preparation of material covering approved amendments;
- e) compilation of the list of differences between national regulations and practices and the international Standards;
- f) planning air navigation meetings and supporting documentation;
- g) co-operation with other international bodies in areas of common concern;
- h) support of the Technical Co-operation Bureau in the planning and implementation of air navigation facilities and services;
- i) provision of technical and operational advice on jointly financed facilities and services;
- j) assisting the development and maintenance of regional plans and regional supplementary procedures and co-ordinate this work with the development of SARPs and PANS; and
- k) encouraging States to provide the Organization with the current information on the progress of research and development projects of interest to ICAO.

The Director of the Air Navigation Bureau serves as the Secretary of the Air Navigation Commission. The Deputy Director assists with work co-ordination and staff direction of the bureau.

3. The work programme of the bureau comprises continuing functions that are common to the whole bureau as well as specific projects that are envisaged for action only during the next triennium. In carrying out the functional missions that have devolved from Articles 37 and 44 of the Convention, and to keep in step with operational growth as well as technological changes in international civil aviation, on-going and *ad hoc* short-term technical and administrative activities are required by the bureau. The

increasing complexity and interrelationships of technical developments as well as associated problems will require monitoring and, frequently, in-depth studies.

4. Inevitably, during each triennium, the bureau also is called upon to respond one or more times to totally unpredictable technical developments or problems on which the Organization may wish to have a comprehensive technical analysis or to consider taking extraordinary actions. Such developments usually stem from natural phenomena, untoward social or political situations, air navigation service interruptions for various reasons, aviation accidents or tragedies, and other unforeseeable events.

5. The work programme of the bureau includes all subjects considered essential to be addressed in the next triennium. Staff resources required to accomplish the work are indicated, as well as an absolute minimum staffing level expected to be available, separated by an oblique stroke. For example, the programme MET for the year 2000 indicates a staff resource requirement of 42/30 (42 professional work months required/30 work months allocated). It is emphasized that this over-all minimum staffing level is not sufficient to accomplish the essential work, but that a sustaining effort will be made to monitor some subjects. For example, sub-programme 2.9.4 (Volcanic ash, radioactive and toxic chemical substances in the atmosphere) requires 4 professional work-months annually, but a sustaining effort only can be made.

SUMMARY FOR MAJOR PROGRAMME II

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS				TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)					
	Establishment		Strength			MEETINGS	STAFF		GEN. OP. EXPENSES	EQUIPMENT	OTHER
	P	GS	P	GS			Strength	Vacant posts			
1999	624	564	551	509	7 989	703	6 259	645	339	43	
2000	624	564	552	498	7 630	125	6 390	693	354	68	
2001	624	564	545	498	7 704	41	6 472	778	354	59	

2.1 PROGRAMME: MANAGEMENT, CO-ORDINATION AND SUPPORT

- a) **Objectives:** Plan, develop and supervise the implementation and administration of the air navigation activities including the provision of secretarial support.

**SUMMARY FOR PROGRAMME 2.1: MANAGEMENT, CO-ORDINATION
AND SUPPORT**

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. ¹ EXPENSES	EQUIPMENT ²	OTHER
1999	84/75	102/102	1 253		912	298	43	
2000	84/75	102/102	1 317		937	312	68	
2001	84/75	102/102	1 328		958	311	59	

¹ Amounts relate primarily to travel on official business and software acquisition.

² Amounts relate to acquisition of office automation equipment.

2.1.1 Sub-programme: **Programme management**

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; provide technical and administrative support to the deliberations of the Assembly, the Council and the Air Navigation Commission and its panels and working groups, regional air navigation meetings and other air navigation meetings; plan, convene and conduct air navigation meetings and prepare supporting documentation; provide technical support and advice to other bureaux of the Organization and co-operate with other international bodies in areas of common concern; and co-ordinate administrative aspects related to the execution of the programme and personnel matters.

2.1.2 Sub-programme: **Air navigation office automation**

(Strategic Action Plan: —)

- a) **Objectives:** Plan, develop and supervise the implementation of the office automation in ANB; develop new office applications in accordance with ANB automation plans; maintain, enhance and improve existing office automation applications; provide text processing service for the production of air navigation documentation; co-ordinate the compatibility of ANB automation system with the over-all network in the Organization.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Office automation	Local area network/applications	—	RA

2.2 PROGRAMME: AERODROMES, AIR ROUTES AND GROUND AIDS (AGA)

- a) **Objectives:** 1) Maintain the currency of Annex 14 and related documents. Undertake studies and provide guidance related to airport location, design and operation. Prepare, monitor and amend, as required, the aerodrome operations planning (AOP) part of the air navigation plans. Provide assistance to States as required.
- 2) Maintain one computer file: the ICAO bird strike information system (IBIS) file which now contains over 70 000 entries.

SUMMARY FOR PROGRAMME 2.2: AGA

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	36/27	48/36	356		356			
2000	36/27	48/36	365		365			
2001	36/24	48/36	347		347			

2.2.1 Sub-programme: Programme management

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and developments.

2.2.2 Sub-programme: Maintenance of Annexes and related documents
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Analyse the adequacy of the provisions of Annex 14 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes and analyse differences received with regard to the implementation of SARPs.
- b) **Programme elements:**
- | | Output, reference and
target date | SAP-Key
Activity | Priority |
|---|--|---------------------|----------|
| 1. Updating of Annex 14 | Amendments to Annex 14,
Volumes I and II | B.1 | RA |
| 2. Analysis of differences
between national regulations
and international Standards | Supplements to Annex 14,
Volumes I and II | B.1 | RA |
| 3. Updating of Annex related
documents | Amendments of Annex related
documents | | RA |

2.2.3 Sub-programme: **Airport design**

(Strategic Action Plan: *A.1 Safety oversight programme; B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.2 Safety oversight programme; E.7 Airport and airspace congestion*)

- a) **Objectives:** Co-ordinate ANB activities related to airport and airspace congestion. Continue studies on airport design specifications for improving the safety and capacity of airports with special emphasis on the requirements of new larger aircraft.

b) <i>Programme elements:</i> (*Proposed tasks)	Output, reference and target date	SAP-Key Activity	Priority
1. Airport design	Monitoring; Annex 14, Volume I	B.1, E.7	RA
2. Impact of new larger aeroplanes on Annex 14, Volume I and PANS-OPS (ANC Task No. AGA-8603)	Amendments to Annex 14, Volume I and PANS-OPS (Doc 8168) (<i>Target date: 4Q 00</i>)	E.7	A
3. Airport design (ANC Task No. AGA-9203)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 01</i>)	E.7	A
4. Take-off from runway/ taxiway intersections (ANC Task No. AGA-9204)	Amendments to Annex 4 and Annex 14, Volume I (<i>Target date: 4Q 99</i>)	E.7	A
*5. Licensing/certification of aerodromes (ANC Task No. AGA-9801)	Amendment to Annex 14, Volume I and development of new related document (<i>Target date: 4Q 02</i>)	A.1, E.2	A

2.2.4 Sub-programme: **Visual aids**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.4 Controlled flight into terrain programme; E.6 Environmental protection programme; E.7 Airport and airspace congestion*)

- a) **Objectives:** Review and update the Annex 14, Volume I specifications on visual aids for air navigation taking into account recent advances on the subject.

b) <i>Programme elements:</i> (*Proposed tasks)	Output, reference and target date	SAP-Key Activity	Priority
1. Visual aids for air navigation	Monitoring; Annex 14, Volume I	B.1	RA
2. Secondary power supply and design (ANC Task No. AGA-8801)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 00</i>)	B.1, E.7	A
3. Obstacle lighting (ANC Task No. AGA-8804)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 99</i>)	B.1, E.4, E.6	B
4. Measurement of light intensity (ANC Task No. AGA-9205)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 00</i>)	B.1	B

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5. Reduced lighting for precision approach runways (ANC Task No. AGA-9206)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 99</i>)	B.1	B
6. Colours for aeronautical ground lights	Amendments to Annex 14, Volume I (<i>Target date: 4Q 99</i>)	B.1	B
7. Marking and lighting of de/anti-icing pads (ANC Task No. AGA-9505)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 99</i>)	B.1, E.7	B
*8. Visual aids for land and hold short operations (ANC Task No. AGA-9802)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 01</i>)	B.1, E.7	A
*9. Aerodrome lighting specifications (ANC Task No. AGA-9803)	Amendment to Annex 14, Volume I (<i>Target date: 4Q 01</i>)	B.1	B
*10. Design and monitoring of electrical systems/reliability of aerodrome lighting systems (ANC Task No. AGA-9804)	Amendments to Annex 14, Volume I and revision of Aerodrome Design Manual, Part 5 (<i>Target date: 4Q 02</i>)	B.1, E.7	A
*11. Apron marking/retro-reflective markers (ANC Task No. AGA-9805)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 02</i>)	B.1	B
*12. Modification of approach lighting configurations (ANC Task No. AGA-9806)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 02</i>)	B.1, E.4	A

2.2.5 Sub-programme: **Surface movement guidance and control systems (SMGCS)** (Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.7 Airport and airspace congestion*)

- a) **Objectives:** Continue studies on improving specifications and guidance material related to surface movement guidance and control systems with special emphasis on visual aids component of SMGC.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Surface movement guidance and control	Monitoring; Annex 14, Volume I	B.1, E.7	RA
2. Visual aids for surface movement guidance and control (ANC Task No. AGA-7801)	Amendments to Annex 14, Volume I and Annex 2 (<i>Target date: 4Q 99</i>)	B.1, E.7	A
3. Advanced surface movement guidance and control systems (ANC Task No. AGA-9202)	Amendments to Annex 14, Volume I (<i>Target date: 4Q 02</i>)	B.1, E.7	A

2.2.6 Sub-programme: **Heliports and stolports**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Develop specifications for siting, design, visual aids and other facilities for heliports, stolports and altiports.

b) <i>Programme elements:</i> (*Proposed tasks)	Output, reference and target date	SAP-Key Activity	Priority
1. Physical characteristics of heliports	Monitoring; Annex 14, Volume II	B.1	RA
2. Physical characteristics and visual aids for stolports	Monitoring; Annex 14, Volume I	B.1	RB
3. Visual cueing for helicopter/vertical take-off and landing (VTOL) operations (ANC Task No. AGA-9807)	Amendments to Annex 14, Volume II (<i>Target date: 4Q 02</i>)	B.1	A

2.2.7 Sub-programme: **Bird hazards to aircraft**

(Strategic Action Plan: *E.5 Responding to identified safety shortcomings in the air navigation field*)

- a) **Objectives:** Develop proposals concerning means of reducing the bird hazards and improving the reporting of bird strikes.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Bird hazard reduction	Monitoring; Annex 14, Volume I	E.5	RA
2. ICAO Bird Strike Information System (IBIS)	Annual bird strike analysis IBIS	E.5	RB

2.2.8 Sub-programme: **Operational information**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.7 Airport and airspace congestion*)

- a) **Objectives:** Develop procedures and techniques for the reporting of aerodrome data. Particular attention to be focused on reporting pavement strength and runway friction characteristics.

b) <i>Programme elements:</i> (*Proposed task)	Output, reference and target date	SAP-Key Activity	Priority
1. Runway friction characteristics	Monitoring; Annex 14, Volume I	B.1, E.7	RA
2. Friction measuring devices	Monitoring; Annex 14, Volume I	B.1, E.7	RA
3. Reporting pavement strength (ANC Task No. AGA-9301)	Amendments to Annex 14, Volume I (<i>Target date:</i> 4Q 02)	B.1, E.7	A
4. Runway surface unevenness (ANC Task No. AGA-9501)	Amendments to Annex 14, Volume I (<i>Target date:</i> 4Q 01)	B.1, E.7	A
5. Development of runway friction index	Amendments to Annex 14, Volume I	B.1	

2.2.9 Sub-programme: **Rescue and fire fighting**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.5 Responding to identified safety shortcomings in the air navigation field; E.6 Environmental protection programme*)

- a) *Objectives:* Develop specifications for more efficient rescue and fire fighting equipment and procedures.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Rescue and fire fighting	Monitoring; Annex 14, Volume I	B.1, E.6	RA
2. Amounts of principal extinguishing agents (ANC Task No. AGA-8902)	Amendments to Annex 14, Volume I (<i>Target date:</i> 4Q 99)	B.1, E.5	B
3. Aerodrome category for rescue and fire fighting (ANC Task No. AGA-8903)	Amendments to Annex 14, Volume I (<i>Target date:</i> 4Q 00)	B.1	A
4. Specifications related to rescue and fire fighting vehicles (ANC Task No. AGA-9401)	Amendments to Annex 14, Volume I (<i>Target date:</i> 4Q 99)	B.1	A
5. Rescue and fire fighting in difficult environments (ANC Task No. AGA-9502)	Amendments to Annex 14, Volume I (<i>Target date:</i> 4Q 00)	B.1, E.5	A

2.2.10 Sub-programme: **Frangibility**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) *Objectives:* Update the frangibility design criteria and frangibility test procedures for visual and non-visual aids and their supporting structures.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Testing for frangibility	Monitoring; Annex 14, Volumes I and II	B.1	RB
2. Frangibility of visual and non-visual aids (ANC Task No. AGA-8002)	Amendments to Annex 14, Volumes I and II New manual on frangibility (<i>Target date:</i> 4Q 99)	B.1	C

2.2.11 Sub-programme: **Regional air navigation plans**

(Strategic Action Plan: *D.1 Improvement of overall efficiency of regional air navigation planning mechanism; D.3 Enhancement of inter-regional co-ordination for integrated and co-ordinated implementation of Regional Air Navigation Plans*)

- a) *Objectives:* Provide assistance for the development and amendment of regional air navigation plans (ANPs).

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Regional planning	Amendments and meetings ANPPs	D.1	RA
2. Monitoring regional developments	Monitoring ANPPs	D.1, D.3	RA
3. Implementation support	Support to States ANPPs	D.1, D.3	RA

2.2.12 Sub-programme: **Technical support**

(Strategic Action Plan: *A.4 Seminars, workshops and symposia; D.1 Improvement of overall efficiency of regional air navigation planning mechanism; D.7 Responding to identified safety shortcomings in the air navigation field; E.9 Technical co-operation programme; G.3 Seminars, workshops and symposia*)

- a) **Objectives:** Provide technical support to and maintain liaison with States, international organizations and other parts of the Organization.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States	Advice and assistance	D.7	RA
2. Technical support to other ANB sections	Advice and assistance	D.7	RA
3. Technical support to TCB and other ICAO bureaux	Advice and assistance	E.9	RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance	D.1	RA
5. Liaison with international organizations and other agencies	Co-ordination		RB
6. Planning and conducting seminars/workshops	Assist implementation	A.4, G.3	RA

2.3 PROGRAMME: ACCIDENT INVESTIGATION AND PREVENTION (AIG)

- a) **Objectives:** 1) Maintain the currency of Annex 13 and related documents, particularly the Manual of Aircraft Accident Investigation, the Accident Prevention Manual, the ADREP Manual, and two annual circulars: the Aircraft Accident Digest and the ADREP Annual Statistics. Operate and maintain the Accident/Incident Reporting (ADREP) System. Undertake studies and provide guidance on accident investigation and prevention matters.

2) Develop in co-operation with States and industry, accident prevention programmes aimed at specific accident types.

3) Process some 1 000 reports received from States annually, publish every two months the ADREP Summaries and process some 200 requests for information annually. Maintain related computer programmes. Develop a globally acceptable data taxonomy. Analyse accident and incident data, identify problem areas and establish trends.

SUMMARY FOR PROGRAMME 2.3: AIG

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS ¹	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	48/48	24/24	510	20	490			
2000	48/48	24/24	499		499			
2001	48/48	24/24	511		511			

¹ Amount relates to AIG Divisional Meeting.

2.3.1 Sub-programme: Programme management

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and developments.

2.3.2 Sub-programme: Maintenance of Annexes and related documents

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Analyse the adequacy of the provisions of Annex 13 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes and analyse differences received with regard to the implementation of SARPs.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Accident Investigation and Prevention (AIG) Divisional Meeting 1999	Meeting recommendations (<i>Target date:</i> 4Q 99)	B.1	A
2. Updating of Annex 13	Amendments to Annex 13 (<i>Target date:</i> 4Q 00)	B.1	RA
3. Analysis of differences between national regulations and international Standards	Supplements to Annex 13 (<i>Target date:</i> 4Q 01)	B.1	RA
4. Updating of Annex related documents	Amendments to Annex related documents		RA

2.3.3 Sub-programme: Accident investigation

(Strategic Action Plan: *A.4 Seminars, workshops and symposia; B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.3 Flight safety and human factors programme; E.4 Controlled flight into terrain programme*)

- a) **Objectives:** Provide assistance to States in applying Annex 13 SARPs, monitor the application of investigation principles and techniques and assist States by maintaining Annex 13 and related guidance material current. Inform States of accident reports available in other States for investigation and prevention purposes. Review the current state of flight recorder technology with a view to developing amendments to the appropriate ICAO provisions consistent with the accident investigation objectives, operational considerations, future air navigation systems and accident prevention objectives. Review and amend the format of the Final Report contained in the Appendix to Annex 13 and to revise and update the *Manual of Aircraft Accident Investigation* (Doc 6920).

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Flight recorder developments (ANC Task No. AIG-9201)	Amendments to Annex Update guidance material (<i>Target dates:</i> 4Q 00)	B.1	A
2. Updating of Manual of Aircraft Accident Investigation (ANC Task No. AIG-9202)	Amendments to Doc 6920 (<i>Target date:</i> 3Q-99, 00, 01)	E.3 E.4	A
3. Preparing Aircraft Accident Digest	Annual digests of selected aircraft accident reports from States Council Dec 86/20		RB
4. Regional accident investigation workshops	Facilitation of investigation co-operation, investigation material, expert contacts, resolution of investigation difficulties A21-20, AIG/92, 28th Asia/Pacific DGAC Conf.	A.4 E.3 E.4	RB

2.3.4 Sub-programme: **Accident prevention**

(Strategic Action Plan: *A.1 Safety oversight programme; D.7 Responding to identified safety shortcomings in the air navigation field; E.3 Flight safety and human factors programme; E.4 Controlled flight into terrain programme*)

- a) **Objectives:** Co-ordinate the application of the accident prevention concept, principles and techniques in the technical work of ANB and assist States in the implementation of prevention programmes within their administrations and the aviation industry. Prepare and publish appropriate prevention material in ICAO documents. Plan and execute accident prevention seminars to include human factors.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Flight safety and accident prevention (ANC Task No. AIG-9002)	Enhance ICAO flight safety and accident prevention programme ANC (128-1 and 12)	A.1, D.7, E.3	A
2. Safety hazards and shortcomings in the AN field	Identification of hazards and appropriate remedial measures	A.1, D.7, E.3, E.4	RA
3. Regional accident prevention seminars	Accident prevention material, technical papers, slides, videos, posters Regional office programme	A.4, E.3	RA
4. Updating of Accident Prevention Manual (Doc 9422)	Amendments to manual Doc 9422 (<i>Target date:</i> 4Q 01)	A.1, D.7, E.4	RA
5. Analysis of ADREP data and of final reports and safety studies	Flight safety problem identification and causes determinations, special studies and safety recommendations ANC (70-11)	A.1, D.7, E.3, E.4	RB

2.3.5 Sub-programme: **Accident/Incident Data Reporting (ADREP) System**

(Strategic Action Plan: *A.1 Safety oversight programme; D.7 Responding to identified safety shortcomings in the air navigation field; E.3 Flight safety and human factors programme; E.4 Controlled flight into terrain programme*)

- a) **Objectives:** Develop an on-line aviation safety information system based on the existing ADREP system and the state-of-the-art of aviation occurrence data base technology within States and other organizations. Operate, maintain and improve the ADREP system for the purpose of providing accurate and complete data in support of accident prevention and investigation activities within States, and in support of ANB technical work programmes. Assist States as appropriate, participate in international efforts to develop a standardized data exchange format and review the global accident scene on the basis of ADREP data.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. ADREP 2000 (ANC Task No. AIG-9203)	Re-development of the ADREP system Update of manual AIG/92 (3/4, 3/5, 3/6) Doc 9156 (Target date: 4Q 99)	A.1, D.7, E.3, E.4	A
2. Development of a global data network	Identification of safety hazards and appropriate remedial measures (Target date: 4Q 01)	A.1, D.7, E.3, E.4	RA
3. ADREP system operation and maintenance	Improvement in over-all system operation ANC (70-11) (Target date: 4Q 00)		RA
4. ADREP data entry	ADREP reports — bi-monthly summaries Prevention reviews/studies		RA
5. Quality control of ADREP data	Accurate ADREP products		RA
6. Ad hoc requests from States for ADREP data	Report printouts, statistics		RA
7. Bi-monthly summaries	Report printouts, statistics Council Dec 86/20		RA
8. Incident reporting system	Incident reporting manual and data collection and reporting system AIG/92 (1.8/2) (Target date: 4Q 01)		RA
9. ADREP data base accident prevention reviews	Circulars, summary reports Annual Statistics, studies ANC (70-11)		RB
10. ICAO technical input to the International Data Exchange for Aviation Safety (IDEAS) group	Common global data base system (Target date: 4Q 01)		RB

2.3.6 Sub-programme: **Technical support**

(Strategic Action Plan: *A.1 Safety oversight programme; A.4 Seminars, workshops and symposia; D.7 Responding to identified safety shortcomings in the air navigation field; E.3 Flight safety and human factors programme; E.4 Controlled flight into terrain programme*)

- a) **Objectives:** Provide technical support to and maintain liaison with States, international organizations and other parts of the Organization.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States	Advice and assistance	E.3	RA
2. Technical support to other ANB sections	Advice and assistance	A.1, D.7, E.3, E.4	RA
3. Technical support to TCB and other ICAO bureaux	Advice and assistance		RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance		RA
5. Liaison with international organizations and other agencies	Co-ordination		RB
6. Planning and conducting seminars/workshops	Assist implementation	A.4	RA
7. CFIT Task force (ANC Task No. OPS-9103)	ADREP report printouts and statistics	E.4	A
8. Support for United Nations aircraft operations	Expert assistance and guidance		RB

2.4 PROGRAMME: AERONAUTICAL INFORMATION SERVICES AND AERONAUTICAL CHARTS (AIS/MAP)

- a) **Objectives:** 1) Maintain the currency of Annexes 4 and 15 and related documents, particularly PANS-ABC and associated technical manuals, including WGS-84 Manual. Undertake studies and provide guidance on aeronautical information services, aeronautical charts, abbreviations and codes and prepare amendments to the Annexes and related documents.

2) Analyse States' aeronautical information publications (AIP), provide material in the form of circulars and training aids, support regional seminars, and provide technical reference and research library service. Maintain the Airport Characteristics Data Bank (ACDB). Co-ordinate aircraft type designators, name-codes for significant navigation points and designators for aircraft operating agencies, aeronautical information services and location indicators.

3) Maintain regional air navigation plan publications (ANPPs) and supplementary procedures (SUPPs), compile an aeronautical chart catalogue, provide a chart production service and prepare charts and documentation for regional air navigation and other meetings.

SUMMARY FOR PROGRAMME 2.4: AIS/MAP

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	60/48	108/84	667		667			
2000	60/48	108/84	685		685			
2001	60/48	108/84	698		698			

2.4.1 Sub-programme: Programme management

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and developments.

2.4.2 Sub-programme: **Maintenance of Annex 4 and related documents**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; B.2 General review of the structure of ICAO Annexes and the development and consultation process regarding SARPs and amendments thereto; E.4 Controlled flight into terrain programme*)

- a) **Objectives:** Analyse the adequacy of the provisions of Annex 4 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes, and analyse differences received with regard to the implementation.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Annex 4	Amendments to Annex 4	B.1, B.2	RA
2. Analysis of differences between national regulations and international Standards	Supplements to Annex 4	B.1	RA
3. Updating of Annex related documents	Amendments to Annex related documents	B.1	RA
4. Terrain portrayal on instrument approach charts (ANC Task No. AIS-9502)	Amendments to Annex 4 (Target date: 1Q 99)	B.1, E.4	A

2.4.3 Sub-programme: **Aeronautical charts services**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; D.1 Improvement of overall efficiency of regional air navigation planning mechanism; E.4 Controlled flight into terrain programme*)

- a) **Objectives:** Provide advice to States on cartographic matters; publish a guidance manual related to Annex 4; assist States by means of critiques to improve their charting programmes; provide advice on cartographic matters and on States' aeronautical charts by means of a chart library and audio-visual aids; provide a chart production service.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Provision of advice and assistance to States	Assistance		RA
2. Updating of Aeronautical Chart Manual (Doc 8697)	Amendments to Doc 8697	B.1, E.4	RA
3. Preparation of critiques on States' aeronautical charts	Critique		RB
4. Updating of Aeronautical Chart Catalogue (Doc 7101)	Amendments to catalogue Doc 7101		RA
5. Maintenance of chart library	Updated library		RA
6. Preparation of audio-visual aids	Slides		RB

7. Provision of a chart production service for the HQ offices and sections, regional offices and regional air navigation and other meetings	Charts	D.1	RA
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2.4.4 Sub-programme: **Maintenance of Annex 15 and related documents**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; B.2 General review of the structure of ICAO Annexes and the development and consultation process regarding SARPs and amendments thereto*)

- a) **Objectives:** Analyse the adequacy of the provision of Annex 15 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes, and analyse differences received with regard to the implementation of SARPs.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Annex 15	Amendments to Annex 15	B.1, B.2	RA
2. Publication of differences between national regulations and international Standards contained in Annex 15	Supplements to Annex 15	B.1	RA
3. Updating of Annex related documents	Amendments to Annex related documents	B.1	RA
4. Aeronautical data bases (ANC Task No. AIS-9401)	Amendments to Annex 15 (Target date: 1Q 00)	B.1	A

2.4.5 Sub-programme: **Aeronautical information services (AIS)**
 (Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Assist States in the provision of aeronautical information services (AIS); provide research and information service on AIS matters, supported by a library of States' Aeronautical Information Publications, NOTAM and circulars to the Organization and external users.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Provision of technical advice to States	Technical advice related to Annex 15	B.1	RA
2. Updating of AIS Manual (Doc 8126)	Amendments to Doc 8126	B.1	RA
3. Preparation of critiques on States' aeronautical information publications	Critique States' AIP		RB
4. Updating of Aeronautical Information Services Provided by States (Doc 7383)	New edition Doc 7383		RA
5. Updating of WGS-84 Manual (Doc 9674)	Amendments to Doc 9674	B.1	RA
6. Development of AIS/MAP personnel training course	Doc (new)		RA
7. Maintenance of AIS library	Updated library		RA

2.4.6 Sub-programme: **ICAO abbreviations, codes, indicators and designators**
 (Strategic Action Plan: —)

- a) **Objectives:** Analyse, develop, maintain, process and publish standardized abbreviations, codes, indicators and designators for use in ICAO documents and for international operational use by States.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Procedures for Air Navigation Services — Abbreviations and Codes (PANS-ABC) (Doc 8400)	Amendments to Doc 8400		RA
2. Updating of Location Indicators (Doc 7910)	New Edition Doc 7910		RA
3. Updating of Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services (Doc 8585)	New Edition Doc 8585		RA

4. Updating of Aircraft Type Designators (Doc 8643)	New Edition Doc 8643	RA
5. Updating of name-code database for significant navigation points	On-line service	RA

2.4.7 Sub-programme: **Regional air navigation plans, supplementary procedures and CNS/ATM planning**

(Strategic Action Plan: *D.1 Improvement of overall efficiency of regional air navigation planning mechanism; D.3 Enhancement of inter-regional co-ordination for integrated and co-ordinated implementation of Regional Air Navigation Plans; D.5 Development and follow-up of the Global Plan, regional and national plans for CNS/ATM*)

a) **Objectives:** Provide assistance for the development and amendment of regional air navigation plans (ANPs) and regional supplementary procedures (SUPPs).

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Regional planning	Amendments and meetings ANPPs Doc 7030	D.1	RA
2. Monitoring regional developments	Monitoring ANPPs	D.1, D.3	RA
3. Implementation support	Support to States ANPPs	D.1, D.3	RA
4. Maintaining and updating of Air Navigation Plan Publications (ANPPs) and Facilities And Services Implementation Documents (FASIDs)	Amendments to ANPPs Doc 7474, Doc 8733, Doc 7754, Doc 8755, Doc 9634, Doc 9635, Doc 9673	D.1	RA
5. Updating of Regional Supplementary Procedures (Doc 7030)	Amendments to SUPPs Doc 7030	D.1	RA
6. Updating of CNS/ATM Global Plan	Amendments to Global Plan	D.5	RA

2.4.8 Sub-programme: **Airport Characteristics Data Bank (ACDB)**

(Strategic Action Plan: —)

a) **Objectives:** Develop computer programmes, in addition to on-going activities, to assist in the monitoring of implementation of regional air navigation plans.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Collection, analysis, update and publication of data on airport characteristics	ACDB printed documents ACDB on-line service	D.1	RB
2. Monitoring future developments	Monitoring	D.1	RB
3. Further development of ACDB and integration into the aeronautical data base for ANPPs production	Improvements in ACDB	D.1	RB

2.4.9 Sub-programme: Technical support

(Strategic Action Plan: *A.4 Seminars, workshops and symposia; D.1 Improvement of overall efficiency of regional air navigation planning mechanism; D.7 Responding to identified safety shortcomings in the air navigation field; E.9 Technical co-operation programme; G.3 Seminars, workshops and symposia*)

- a) *Objectives:* Provide technical support to and maintain liaison with States, international organizations and other parts of the Organization.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States	Advice and assistance	D.7	RA
2. Technical support to other ANB sections	Advice and assistance	D.7	RA
3. Technical support to TCB and other ICAO bureaux	Advice and assistance	E.9	RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance	D.1	RA
5. Liaison with international organizations and other agencies	Co-ordination		RB
6. Planning and conducting seminars/workshops	Assist implementation	A.4, G.3	RA

2.5 PROGRAMME: **AIR NAVIGATION BUREAU (ANB)**

Elements relating to administrative matters are assimilated in 2.1: Management, Co-ordination and Support.

2.6 PROGRAMME: AIR TRAFFIC MANAGEMENT (ATM)

- a) **Objectives:** Maintain the currency of Annexes 2, 11, 12 and related documents, particularly the PANS-RAC. Undertake studies and provide guidance on matters relating to rules of the air and the organization, practice, procedures and implementation of air traffic services and search and rescue services. Review and co-ordinate proposals for amendment of Regional Air Navigation Plans and Regional Supplementary Procedures (Doc 7030); undertake real-time air traffic services (ATS) contingency planning and crisis management; and maintain liaison with international organizations.

SUMMARY FOR PROGRAMME 2.6: ATM

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	84/72	48/36	734		734			
2000	84/72	48/36	751		751			
2001	84/72	48/36	767		767			

2.6.1 Sub-programme: Programme management

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and development.

2.6.2 Sub-programme: Maintenance of Annexes and related documents

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Analyse the adequacy of the provisions of Annexes 2, 11 and 12 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes and analyse differences received with regard to the implementation of SARPs.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Annexes 2, 11 and 12	Amendments to Annexes 2, 11 and 12 and Doc 4444	B.1	RA
2. Analysis of differences between national regulations and international Standards	Supplements to Annexes 2, 11 and 12 and Doc 4444	B.1	RA
3. Updating of Annex related documents	Amendments to Annex related documents		RA

2.6.3 Sub-programme: Air traffic management (ATM) requirements for communications, navigation, and surveillance (CNS)

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; D.5 Development and follow-up of the Global Plan, regional and national plans for CNS/ATM; E.7 Airport and airspace congestion*)

- a) **Objectives:** Support the evolutionary development of an integrated, global air traffic management system with the aim to realize the benefits expected from implementation of the CNS/ATM systems. Develop and maintain SARPs, procedures and guidance material as necessary to cater to evolving global air traffic demand and user requirements for efficiency and economy while maintaining or improving the existing levels of safety. Determine ATM requirements for, and functional specification of, communications, navigation, and surveillance capability.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Global air traffic management (ANC Task No. ATM-9202)	Amendments to Annexes 2 and 11 and Doc 4444	B.1, D.5, E.7	A
2. Interoperability and functional integration of flight operations, ATS, ATFM and tactical ASM (ANC Task No. ATM-9510)	Amendments to Annexes 2 and 11 and Doc 4444	B.1, E.7	B
3. Required total system performance (ANC Task No. ATM-9501)	Draft policy statement	E.7	A
4. ATM requirements for communications (ANC Task No. ATM-9502)	Amendments to Annexes 2, 6 and 11 and Doc 4444 (Target date: 1Q 01)	B.1	A
5. ATS applications for air-ground data links (ANC Task No. ATM-9102)	Amendments to Annex 11 and Doc 4444 (Target date: 1Q 01)	B.1	A
6. Data interchange between automated ATS systems (ANC Task No. ATM-9103)	Amendments to Annex 11 and Doc 4444 (Target date: 1Q 01)	B.1, E.7	A
7. ATM requirements for navigation (ANC Task No. ATM-9503)	Amendments to Annexes 2, 6 and 11 and Doc 4444 (Target date: 1Q 00)	B.1, E.7	B
8. ATM requirements for surveillance (ANC Task No. ATM-9504)	Amendments to Annexes 2, 6, and 11 and Doc 4444 (Target date: 1Q 01)	B.1, E.7	A
9. Review of secondary surveillance radar (SSR) transponder and collision avoidance system carriage requirements	Correspondence (Target date: 4Q 00)		RB

2.6.4 Sub-programme: **Airspace management (ASM)**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.7 Airport and airspace congestion*)

- a) **Objectives:** Facilitate optimal use of airspace, organized so as to provide for efficiency of service, while maintaining or improving the existing levels of safety.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Airport and airspace congestion (ANC Task No. ANB-9007)	Amendments to Annexes	B.1, E.7	A
2. Joint use of airspace and civil/military co-ordination of air traffic (ANC Task No. ATM-9002)	Amendments to Annex 11, Doc 4444, Doc 9433 and Doc 9554 (<i>Target date:</i> 1Q 01)	B.1, E.7	A
3. Airspace infrastructure planning (ANC Task No. ATM-9505)	Guidance material (<i>Target date:</i> 4Q 04)	E.7	A
4. Required navigation performance and area navigation for en-route operations (ANC Task No. ATM-8505)	Amendments to Annex 11, Doc 4444, Doc 9426 (<i>Target date:</i> 1Q 00)	B.1, E.7	A
5. Separation between aircraft (ANC Task No. ATM-6301)	Amendments to Annexes 2, 6 and 11 and Doc 4444, Doc 7030, Doc 9574 and Doc 9613	B.1, E.7	A
6. Updating and harmonization of separation minima in regional SUPPs and consolidation for inclusion in the PANS-RAC, where possible	Amendments to Doc 4444 and Doc 7030	E.7	RA
7. Minimum levels for en-route IFR flights (ANC Task No. ATM-8705)	Amendments to Annex 2 (<i>Target date:</i> 1Q 00)	B.1	C
8. Minimum distance between parallel instrument runways (ANC Task No. ATM-9001)	Amendments to Annex 14, Doc 4444 Doc 8168 and Circ 207 (<i>Target date:</i> 4Q 00)	B.1, E.7	A
9. VFR operations (ANC Task No. ATM-7802)	Amendments to Annexes 2 and 11 and Doc 4444 (<i>Target date:</i> 1Q 99)	B.1	B

2.6.5 Sub-programme: **Air traffic services (ATS)**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; D.7 Responding to identified safety shortcomings in the air navigation field; E.7 Airport and airspace congestion*)

a) **Objectives:** Facilitate global harmonization and efficiency of ATS.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Revision of the provisions relevant to air traffic services (ANC Task No. ATM-6901)	Amendments to Annexes 2 and 11 and Doc 4444	B.1, E.7	B
2. ATS aspects of MLS operations (ANC Task No. ATM-8510)	Amendments to Doc 4444 and Doc 9426 (<i>Target date:</i> 1Q 00)	E.7	A
3. Use of SSR alone for separation purposes (ANC Task No. ATM-8602)	Amendments to Doc 4444 and Doc 7030 (<i>Target date:</i> 1Q 00)	E.7	A
4. Update of provisions concerning the use of radar (ANC Task No. ATM-9201)	Amendments to Doc 4444 (<i>Target date:</i> 1Q 00)	E.7	B
5. Operations on intersecting and same runways (ANC Task No. ATM-9203)	Amendments to Doc 4444 (<i>Target date:</i> 1Q 01)	E.7	A
6. ADS procedures (ANC Task No. ATM-9506)	Amendments to Annexes 1 and 11 and Doc 4444	B.1, E.7	A
7. Radiotelephony speech for international aviation (ANC Task No. ATM-9702)	Amendments to Annexes 1, 2, 10 and Doc 4444 (<i>Target date:</i> 1Q 02)	B.1, D.7	A
8. Shortcomings in the air navigation field (ANC Task No. ANB-9609)	Action plans to remedy shortcomings	D.7	A
9. Updating of ATS Planning Manual	Amendments to Doc 9426	E.7	RA
10. Updating of Manual of Radiotelephony	Amendments to Doc 9432	E.7	RA
11. Radiotelephony audio-visual programme	Audio-visual aids		RA
12. Review and monitoring of national ATS procedures and provision of advice, as necessary	Correspondence		RB
13. Development of an ATS applications manual (ANC 138-15)	New manual	E.7	RA

2.6.6 Sub-programme: **Air traffic flow management (ATFM)**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.7 Airport and airspace congestion*)

- a) **Objectives:** Facilitate an optimal flow of air traffic, taking due account of available capacity of the air traffic control system.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. ATFM systems and procedures (ANC Task No. ATM-9509)	Amendments to Annexes 2, 11 and Doc 4444 (Target date: 1Q 02)	B.1, E.7	B

2.6.7 Sub-programme: **Contingency planning and crisis management**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.8 Air navigation contingency planning*)

- a) **Objectives:** Provide technical support in relation to real-time ATC contingency planning and crisis management to ensure the safety of international operations; co-ordinate the implementation of contingency procedures.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Air traffic contingency measures (ANC Task No. ATM-8402)	Amendments to Annex 11 and Doc 9426 (Target date: 1Q 02)	B.1, E.8	A
2. Technical support during real-time ATC contingency situations	Advice and assistance Annex 11 and Doc 9426	E.8	RA
3. Implementation of contingency procedures	Co-ordination Annex 11 and Doc 9426	E.8	RA

2.6.8 Sub-programme: **Search and rescue**

(Strategic Action Plan: —)

- a) **Objectives:** Determine future requirements for carriage and technical characteristics of ELTs in accordance with the ICAO policy on future aviation distress beacons. Develop guidance material on coding and registration of ELTs and review related aspects such as crash survivability of ELTs and communications requirements for survivors.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Search and rescue requirements for ELTs and communications (ANC Task No. ATM-9402)	Amendments to Annexes 10 and 12, Doc 7333 and Circ 185 (<i>Target date:</i> 1Q 00)		B
2. Harmonization of ICAO and IMO SAR procedures	Amendments to Doc 7333		RA

2.6.9 Sub-programme: **Regional air navigation plans and supplementary procedures**
(Strategic Action Plan: *D.5 Development and follow-up of the Global Plan, regional and national plans for CNS/ATM*)

a) **Objectives:** Provide assistance for the development and amendment of regional air navigation plans (ANPs) and regional supplementary procedures (SUPPs).

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Regional planning	Amendments and meetings ANPPs Doc 7030	D.5	RA
2. Monitoring regional developments	Monitoring ANPPs	D.5	RA
3. Implementation support	Support to States ANPPs		RA

2.6.10 Sub-programme: **Technical support**
(Strategic Action Plan: *D.5 Development and follow-up of the Global Plan, regional and national plans for CNS/ATM; E.5 Responding to identified safety shortcomings in the air navigation field; G.3 Seminars, workshops and symposia*)

a) **Objectives:** Provide technical support to and maintain liaison with States, international organizations and other parts of the Organization.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States	Advice and assistance		RA
2. Technical support to other ANB sections	Advice and assistance		RA
3. Technical support to TCB and other ICAO bureaux, particularly as related to the joint financing agreement with Iceland	Advice and assistance	E.9	RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance	D.5	RA

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|--|-----------------------|-----|----|
| 5. Liaison with international organizations and other agencies | Co-ordination | | RB |
| 6. Planning and conducting seminars/workshops | Assist implementation | G.3 | RA |

2.7 PROGRAMME: COMMUNICATIONS, NAVIGATION, AND SURVEILLANCE (CNS)

- a) **Objectives:** Maintain the currency of Annex 10 and related documents. Undertake studies and provide guidance on communications, radio navigation and surveillance systems. Maintain the currency of the communications, radio navigation and surveillance parts of the air navigation plan publications (ANPPs) and regional supplementary procedures (SUPPs) and various manuals and circulars. Co-ordinate with the International Telecommunication Union on all matters concerning the electromagnetic spectrum allocated to the aeronautical communications, radio navigation and surveillance services and administer the use of these allocations. Co-ordinate with other UN and industry organizations on matters of mutual interest in order to ensure that communications navigation and surveillance requirements for international civil aviation are met in a timely and cost-effective manner.

SUMMARY FOR PROGRAMME 2.7: CNS

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	84/73	48/35	735		735			
2000	84/72	48/24	719		719			
2001	84/73	48/24	743		743			

2.7.1 Sub-programme: Programme management

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and developments.

2.7.2 Sub-programme: Maintenance of Annexes and related documents

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; B.2 General review of the structure of ICAO Annexes and the development and consultation process regarding SARPs and amendments thereto; D.6 Assistance to States in development of capacity of their air navigation system, and in cost-recovery and organizational arrangements for the provision of air navigation services*)

- a) **Objectives:** Analyse the adequacy of the provisions of Annex 10 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes and analyse differences received with regard to the implementation of SARPs; review the structure and layout of Annex 10 and develop a strategy and course of action for streamlining and simplifying the document while ensuring the timely availability and adequacy of SARPs and guidance material.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Annex 10	Amendments to Annex 10	B.1, B.2	RA
2. Analysis of differences between national regulations and international Standards	Supplements to Annex 10	B.1, B.2	RA
3. Updating of Annex related documents	Amendments to Annex 10 related documents	D.6	RA

2.7.3 Sub-programme: **Communications**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; D.4 Co-operation with other international bodies for the establishment of civil GNSS; D.8 Creation of data bases and dissemination of information on CNS/ATM*)

- a) *Objectives:* Advise on the over-all monitoring, co-ordination of development and transition planning to ensure that implementation of the existing and future aeronautical communication systems takes place on a global co-ordinated basis and in a cost-effective manner; develop SARPs and guidance material related to digital data and voice communication systems for aeronautical mobile and fixed services based upon terrestrial and satellite means, using the open systems interconnection (OSI) model, interoperable communication protocols for the subnetworks of the aeronautical telecommunication network (ATN); ensure that civil aviation requirements for frequencies to fulfil the needs of aeronautical communications are satisfied and aeronautical spectrum is efficiently utilized; develop, co-ordinate and establish the ICAO position on ITU World Radiocommunication Conference (WRC) agenda items that affect aeronautical communications; monitor the transition from the existing 121.5/243 MHz ELT population to a combined 121.5 MHz (improved) and 406 MHz ELTs. Develop provisions for minimizing the potential for misunderstanding in air/ground communications in the areas of aural transmissions of numbers and in the composition of radio call signs.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Aeronautical telecommunication network (ATN) (ANC Task No. CNS-9403)	Amendments to Annex 10 (Target date: 1Q 00)	B.1	A
2. ATN address registration and publication process	Advise States Data bank	D.8	RA
3. Aeronautical mobile satellite service (AMSS subnetwork) (ANC Task No. CNS-8702)	Amendments to Annex 10 (Target date: 1Q 00)	B.1	A
4. VHF air-ground data link (VDL subnetwork) (ANC Task No. CNS-9102)	Amendments to Annex 10 (Target date: 1Q 00)	B.1	A
5. High frequency data link (HFDL) (ANC Task No. CNS-9602)	Amendments to Annex 10 (Target date: 1Q 99)	B.1	A

6. AFTN/AFS systems planning studies (ANC Task No. CNS-7001)	Amendments to Annex 10 (Target date: 1Q 99)	B.1	A
7. AFTN procedures and message format (ANC Task No. CNS-8101)	Amendments to Annex 10 (Target date: 1Q 00)	B.1	B
8. Monitoring implementation of ELTs operating on 406 MHz	Monitoring	B.1	RA
9. Aeronautical mobile services (AMS) procedures (ANC Task No. CNS-7402)	Amendments to Annex 10 (Target date: 1Q 99)	B.1	A
10. Technical characteristics of survival radio equipment and emergency location beacons	Amendments to Annex 10	B.1	RA
11. Aeronautical electromagnetic spectrum (ANC Task No. CNS-7002)	Amendments to Annex 10	B.1	A
12. Activities related to World Radiocommunication Conferences (WRCs)	ICAO documents and participation	D.4	RA
13. Maintain currency of ICAO RF Handbook	Amendments to ICAO policies related to RF spectrum requirements	D.4	RA

2.7.4 Sub-programme: Navigation

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; C.2 Development of a legal framework with regard to long-term Global Navigation Satellite Systems (GNSS); D.4 Co-operation with other international bodies for the establishment of civil GNSS*)

- a) **Objectives:** Advise on the over-all monitoring, co-ordination of development and transition planning to ensure that implementation of the existing and future aeronautical navigation systems takes place on a global basis and in a cost-effective manner; develop SARPs and guidance material related to new technology systems (e.g. global navigation satellite system (GNSS)), as required to support navigation during all phases of flight, including precision approach, landing and departure operations, surface movement guidance and control; ensure that civil aviation requirements for frequencies to fulfil the needs of aeronautical navigation are satisfied and aeronautical spectrum is efficiently utilized; develop, co-ordinate and establish the ICAO position on ITU WRC agenda items that affect aeronautical navigation.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Application of new technology systems to support all phases of flight including approach, landing and departure operations (ANC Task Nos. CNS-9401 and CNS-9501)	Amendments to Annex 10, Doc 4444, Doc 8168	B.1, C.2, D.4	A
2. Monitoring developments in implementation of new technology systems to support all phases of flight including precision approach and landing	Monitoring	D.4	RA
3. Non-visual aids for surface movement guidance and control (ANC Task No. CNS-9401)	Amendments to Annex 10, Annex 14 (<i>Target date:</i> 1Q 99)	B.1, D.4	A
4. Global navigation satellite system (GNSS) (ANC Task No. CNS-9401)	Amendments to Annex 10 (<i>Target date:</i> 1Q 00)	B.1, C.2, D.4	A
5. Testing of radio navigation aids (ANC Task No. CNS-9402)	Amendments to Annex 10 and Doc 8071 (<i>Target date:</i> 1Q 99)	B.1	B
6. Aeronautical electromagnetic spectrum (ANC Task No. CNS-7002)	Amendments to Annex 10	B.1	A
7. Activities related to World Radiocommunication Conferences (WRCs)	ICAO documents and participation	D.4	RA

2.7.5 Sub-programme: **Surveillance**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; D.4 Co-operation with other international bodies for the establishment of civil GNSS; D.8 Creation of data bases and dissemination of information on CNS/ATM*)

- a) *Objectives:* Advise on the over-all monitoring, co-ordination of development and transition planning to ensure that implementation of the existing and future surveillance systems takes place on a global basis and in a cost-effective manner; develop SARPs and guidance material related to surveillance and collision avoidance systems as required to support ATM, including ADS service and ADS-broadcast, as necessary, surface movement guidance and control; ensure that civil aviation requirements for frequencies to fulfil the needs of surveillance services are satisfied and aeronautical spectrum is efficiently utilized; develop, co-ordinate and establish the ICAO position on ITU WRC agenda items that affect surveillance services.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Collision avoidance systems (ANC Task No. CNS-7901)	Amendments to Annex 10 (<i>Target date:</i> 1Q 01)	B.1	A
2. SSR Mode S enhancements	Amendments to Annex 10, Doc 4444, Doc 8168 (<i>Target date:</i> 1Q 01)	B.1	RA
3. ADS-broadcast	Amendments to Annex 10 (<i>Target date:</i> 1Q 01)	B.1	A
4. Airborne separation assurance system (ASAS)	Amendments to Annex 10 and related documents	B.1	A
5. Allocation of 24-bit aircraft addresses	Advice to States Annex 10	B.1	RA
6. Maintain ICAO data registry of 24-bit aircraft address allotments	Data bank (internal)	D.8	RA
7. Aeronautical electromagnetic spectrum (ANC Task No. CNS-7002)	Amendments to Annex 10	B.1	A
8. Activities related to World Radiocommunication Conferences (WRCs)	ICAO documents and participation	D.4	RA

2.7.6 Sub-programme: **Regional air navigation plans and supplementary procedures**
(Strategic Action Plan: *D.1 Improvement of overall efficiency of regional air navigation planning mechanism; D.2 Further development of sub-regional approach and integration of planning and implementation process for CNS/ATM into regional air navigation planning mechanism; D.3 Enhancement of inter-regional co-ordination for integrated and co-ordinated implementation of Regional Air Navigation Plans; D.6 Assistance to States in development of capacity of their air navigation system, and in cost-recovery and organizational arrangements for the provision of air navigation services*)

a) *Objectives:* Provide assistance for the development and amendment of regional air navigation plans (ANPs) and regional supplementary procedures (SUPPs).

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Regional planning	Amendments to ANPPs and meetings ANPPs Doc 7030	D.1	RA
2. Monitoring regional developments	Monitoring ANPPs	D.1, D.2, D.3	RA
3. Implementation support	Support to States ANPPs	D.6	RA

2.7.7 Sub-programme: **Technical support**

(Strategic Action Plan: *A.4 Seminars, workshops and symposia; A.5 Technical co-operation programme; D.2 Further development of sub-regional approach and integration of planning and implementation process for CNS/ATM into regional air navigation planning mechanism; D.4 Co-operation with other international bodies for the establishment of civil GNSS; D.6 Assistance to States in development of capacity of their air navigation system, and in cost-recovery and organizational arrangements for the provision of air navigation services; G.1 Technical co-operation programme; G.3 Seminars, workshops and symposia*)

- a) **Objectives:** Provide technical support to and maintain liaison with States, international organizations and other parts of the Organization.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States	Advice and assistance	D.6	RA
2. Technical support to other ANB sections	Advice and assistance		RA
3. Technical support to TCB and other ICAO bureaux	Advice and assistance	A.5, G.1	RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance	D.2	RA
5. Liaison with international organizations and other agencies	Co-ordination	D.4	RA
6. Planning and conducting seminars/workshops	Assist implementation	A.4, G.3	RA

2.8 PROGRAMME: AVIATION MEDICINE (MED)

- a) **Objectives:** Maintain the currency of the medical certification provisions in Annex 1 and the currency of the Manual of Civil Aviation Medicine. Undertake studies and provide guidance on medical problems associated with flight and flight crew performance; air traffic control, licensing standards and conditions of work; biological and psychological matters relating to passengers and crews; medical equipment, first aid and survival; medical aspects of accident investigation and prevention. Carry out professional co-ordination with the Aerospace Medical Association and the International Academy of Aviation and Space Medicine. Provide specialized aeromedical advice to States, international organizations and ICAO bodies.

SUMMARY FOR PROGRAMME 2.8: MED

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	12/12	12/12	148		148			
2000	12/12	12/12	151		151			
2001	12/12	12/12	154		154			

2.8.1 Sub-programme: Programme management

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and developments.

2.8.2 Sub-programme: **Technical studies on medical problems associated with civil aviation**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Analyse relevant information in order to maintain regulatory and guidance material current.
- b) **Programme elements:**
- | | Output, reference and
target date | SAP-Key
Activity | Priority |
|----------------------------|---------------------------------------|---------------------|----------|
| 1. Flight crew | Amendments to Annex 1 and
Doc 8984 | B.1 | RA |
| 2. Air traffic controllers | Amendments to Annex 1 and
Doc 8984 | B.1 | RA |

3. Passengers and crew	Amendments to Annex 1 and Doc 8984	B.1	RB
4. First aid and survival	Amendments to Annex 6	B.1	RB
5. Accident investigation and prevention	Amendments to Annex 13 and Docs 8984 and 6920	B.1	RA

2.8.3 Sub-programme: **Prevention of substance abuse in the workplace**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Update the current provisions in the ICAO documents in order to ensure that they represent a sufficient safeguard for flight safety. Promote Doc 9654 and monitor Contracting States' experiences.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Licence holders	Amendments to Annexes 1, 2, 6, 8 and 13 and Docs 8984, 9654 and 6920 (Target date: 4Q - 99, 00)	B.1	A
2. Other aviation personnel	Educational programmes		A

2.8.4 Sub-programme: **Medical aspects of flight crew fatigue**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Maintain current the provisions of Annex 6.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. SARPs	Amendments to Annex 6	B.1	A
2. Guidance material	Doc 8984 (Target date: 4Q 99)	B.1	A

2.8.5 Sub-programme: **Upper age limits for flight crew members**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Assess the validity of present provisions.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Upper age limits for flight crew member (ANC Task No. MED-7101)	Amendments to Annex 1 (Target date: 2Q 01)	B.1	C

2. Guidance material	Doc 8984 (Target date: 4Q - 99, 01)	B.1	A
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2.8.6 Sub-programme: **Vision and colour perception**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Revise the medical provisions with regard to vision and colour perception and revise/rewrite the text of Chapter 10 — Ophthalmology of the *Manual of Civil Aviation Medicine* (Doc 8984), Second Edition — 1985.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Licence holders	Amendments to Annex 1 and Doc 8984 (Target date: 4Q - 99, 01)	B.1	A

2.8.7 Sub-programme: **Technical support**

(Strategic Action Plan: —)

- a) **Objectives:** Provide technical support to States, international organizations and other parts of the Organization on matters relating to aviation medicine.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States and international organizations	Advice and assistance		RA
2. Technical support to other ANB sections	Advice and assistance		RA
3. Technical support to other ICAO bureaux	Advice and assistance		RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance		RA
5. Liaison with international organizations and other agencies particularly with the Aerospace Medical Association and the International Academy of Aviation and Space Medicine	Co-ordination		RB
6. Planning and conducting seminars/workshops	Assist implementation		RA

2.9 PROGRAMME: AERONAUTICAL METEOROLOGY (MET)

- a) **Objectives:** Maintain the currency of Annex 3 and related documents. Undertake studies and provide guidance on aeronautical meteorology. Monitor and update the MET part of regional air navigation plans and regional supplementary procedures and prepare and update meteorological manuals. Develop provisions for the MET component of the CNS/ATM systems including the planning and monitoring of the implementation of the world area forecast system (WAFS) and the automation of air reporting and uplink of operational MET data to aircraft in flight via data link communications. Monitor technological developments in the observing, forecasting and reporting of wind shear and other hazardous phenomena in the terminal area and at aerodromes and the provision of warnings to aircraft in flight. Co-ordinate and develop international arrangements for the provision of warnings to aircraft for volcanic ash cloud under the international airways volcano watch (IAVW), and for radioactivity/toxic chemicals released into the atmosphere following industrial accidents. Develop provisions for automated SIGMET information, SIGMETs in graphical format and automated pre-flight information systems. Conduct liaison with the World Meteorological Organization (WMO) concerning the provision of meteorological services to international civil aviation in response to operational requirements stated by ICAO.

SUMMARY FOR PROGRAMME 2.9: MET

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	40/28	24/24	330		330			
2000	42/30	24/24	353		353			
2001	37/25	24/24	319		319			

2.9.1 Sub-programme: Programme management

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and developments.

2.9.2 Sub-programme: **Maintenance of Annexes and related documents**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; B.2 General review of the structure of ICAO Annexes and the development and consultation process regarding SARPs and amendments thereto; E.3 Flight safety and human factors programme*)

- a) **Objectives:** Analyse the adequacy of the provisions of Annex 3 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes and analyse differences received with regard to the implementation of SARPs.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Annex 3	Amendments to Annex 3 (<i>Target dates:</i> indicated in relevant sub-programmes)	B.1, E.3	RA
2. Analysis of differences between national regulations and international Standards	Supplements to Annex 3 (<i>Target date:</i> 4Q 99)	B.1	RA
3. Updating of Annex related documents	Amendments to Annex related documents (<i>Target date:</i> indicated in relevant sub-programmes); and Doc 8896 and Doc 9377 (<i>Target date:</i> 1Q 99)	B.1	RA
4. Restructuring of Annex 3	Restructured Annex 3 with technical specifications transferred to appendices (<i>Target date:</i> 3Q 00)	B.2	RA

2.9.3 Sub-programme: **Meteorological component of CNS/ATM systems**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required, D.5 Development and follow-up of the Global Plan, regional and national plans for CNS/ATM*)

- a) **Objectives:** Plan for the meteorological support required for the CNS/ATM systems to ensure the development of a seamless and transparent global service to international air navigation. Continuous evolutionary planning and monitoring of the world area forecast system to its final phase, including global coverage by three direct satellite broadcasts; development of provisions for the uplink of OPMET information to aircraft en route and in the terminal area using data link communications, including the display of the information in the cockpit in graphical format; and the development of provisions for efficient and timely air reporting including wind, temperature, turbulence and humidity, using data link communications.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. WAFS planning and implementation (ANC Task No. MET-8202)	Amendments to Annex 3 and guidance material C-WP (<i>Target date:</i> 1Q 01) SADISOPSG/4, 5 & 6 (<i>Target date:</i> 2Q 99, 2Q 00, 2Q 01) Amendments to SADIS User Guide (<i>Target date:</i> 3Q 99, 3Q 00 and 3Q 01) WAFSSG/7 (<i>Target date:</i> 3Q 99) Guidance on BUFR Code for WAFS SIGWX (<i>Target date:</i> 3Q 00)	B.1, D.5	A
2. Monitoring the future evolutionary development of the WAFS especially implementation of the final phase	Implementation of the WAFS	D.5	RA
3. Future requirements for the uplink of OPMET information to aircraft in flight (ANC Task No. MET-9301)	Amendments to Annex 3 and <i>Manual on ATS Data Link Application</i> (Doc 9694) C-WP (<i>Target date:</i> 1Q 01) METLINKSG/5 (<i>Target date:</i> 2Q 00)	B.1, D.5	A
4. Amendment to Annex 3 concerning automated air reporting (ANC Task No. MET-9101)	Amendments to Annex 3 (<i>Target date:</i> 1Q 01) METLINKSG/5 (<i>Target date:</i> 2Q 00) Amendments to Doc 8896 (<i>Target date:</i> 1Q 99)	B.1, D.5	A
5. Clear air turbulence warnings	Amendments to Annex 3 and Doc 8896 C-WP (<i>Target date:</i> 1Q 01)	B.1, D.5	A
6. MET component of Global Plan	Global Plan (new document) Volume II (<i>Target date:</i> 2Q 99)	D.5	RA

2.9.4 Sub-programme: **Volcanic ash, radioactive and toxic chemical substances in the atmosphere**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Develop international arrangements and procedures to cover the monitoring and provision of warnings to aircraft for volcanic ash under the ICAO international airways volcano watch (IAVW), radioactive debris and toxic chemical clouds.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Volcanic ash warnings (ANC Task No. MET-8201)	Amendments to Annex 3 and Doc 9691 C-WP (<i>Target date: 1Q 01</i>) VAWSG/3 (<i>Target date: 4Q 00</i>)	B.1	A
2. Monitoring and provision of warnings to aircraft of radioactive debris and toxic chemical "clouds" (ANC Task No. MET-8801)	Amendments to Annex 3 and Doc 9691; international procedures with WMO and IAEA C-WP (<i>Target date: 1Q 01</i>)	B.1	A
3. Monitoring and co-ordinating the operation of the ICAO international airways volcano watch (IAVW)	Monitoring and co-ordinating the IAVW. Annual Edition of Handbook of the IAVW (<i>Target date: 2Q 99; 2Q 00; 2Q 01</i>)		RA
4. <i>Manual on Volcanic Ash, Radioactive Debris and Toxic chemical "Clouds"</i> (Doc 9691)	Doc 9691 (new manual in preparation) (<i>Target date: 1Q 99</i>)		RA
5. Guidance on international arrangements with WMO and IAEA on warnings to aircraft of radioactive material in the atmosphere	State letter and guidance material (<i>Target date: 1Q 00</i>)		RA

2.9.5 Sub-programme: **MET reports and forecasts**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Review and amend the operational requirements in Annex 3 for automated MET aerodrome observations and reports including remote sensing techniques, and the contents of aerodrome forecasts. Develop provisions for MET information provided by means of automated pre-flight information systems. Monitor States' studies on forecasting RVR.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Information on terminal weather for flight planning (ANC Task No. MET-7401)	Amendments to Annex 3		A
2. Observing and reporting of weather conditions at the aerodrome and in the terminal area (ANC Task No. MET-9206)	Amendments to Annex 3 C-WP (<i>Target date:</i> 1Q 01)	B.1	B
3. Automated pre-flight information systems (ANC Task No. MET-9401)	Amendments to Annex 3 and guidance material on AIS/MET harmonization of pre-flight briefing C-WP (<i>Target date:</i> 1Q 01)	B.1	B

2.9.6 Sub-programme: **Visibility for aircraft operations**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Develop provisions for Annex 3 for the introduction of the concept of "prevailing visibility" taking account of the availability of scatter visibility instruments. Develop specifications for Annex 3 concerning the assessment, reporting and forecasting of runway visual range, and study the requirement for slant visual range based on research in States.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Meteorological visibility and runway visual range for aeronautical operations (ANC Task No. MET-9701)	Amendments to Annex 3 and guidance material C-WP (<i>Target date:</i> 1Q 00)	B.1	A
2. Observing and reporting of slant visual range (SVR) (ANC Task No. MET-8601)	Amendments to Annex 3		C
3. Develop new edition of <i>Manual of Runway Visual Range Observing and Reporting Practices</i> (Doc 9328)	New edition of Doc 9328 (<i>Target date:</i> 1Q 99)		RA

2.9.7 Sub-programme: **Wind shear and other hazardous phenomena in the terminal area**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Monitor technological developments in the observing, forecasting and reporting of wind shear and other hazardous phenomena and amend the provisions in step with these developments.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Wind shear in the terminal area (ANC Task No. MET-6201)	Amendments to Annexes 3 and 6; WISTSG/3 (Target date: 1Q 01)	B.1	A
2. Upgrade wind shear circular to manual and update content	Upgrading of Circ. 186-AN/122 to a manual (Target date: 4Q 00)		RA

2.9.8 Sub-programme: **Improvement to SIGMET procedures**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Study the need for the inclusion in Annex 3, Chapter 7 provisions for warnings for rotor zones in the terminal area. Develop numerical criteria for hazardous weather phenomena to facilitate use of numerical weather prediction output in issuing SIGMETs. Develop format and procedures for the introduction of SIGMETs in graphical format for transmission to aircraft by data link.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Operational requirements for the inclusion of severe mountain waves in SIGMET messages and wind shear warnings (ANC Task No. MET-9201)	Amendments to Annex 3 and results of study C-WP (Target date: 1Q 01)		A
2. Development of quantitative criteria for SIGMET messages (ANC Task No. MET-9601)	Amendments to Annex 3 AN-WP (Target date: 3Q 01)	B.1	B
3. SIGMET information in graphical format (ANC Task No. MET-9602)	Amendments to Annex 3 C-WP (Target date: 1Q 01)	B.1	A

2.9.9 Sub-programme: **Aeronautical MET codes**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Monitor the introduction of the new aeronautical requirements for the provision of reports and forecasts at aerodromes and associated MET codes and review the provisions in Annex 3, as necessary. Standardize phraseology used in transmitting OPMET information on VOLMET broadcasts based on new codes.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Aeronautical MET codes (ANC Task No. MET-8803)	Amendments to Annex 3, Update PANS-RAC, Doc 8896 and ANPPs on VOLMET phraseology (Target date: 1Q 99)	B.1	B

2.9.10 Sub-programme: **New institutional and technological developments in the provision of meteorological service for the international air navigation**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Review of the requirements for the provision of meteorological services for international air navigation in Annex 3 in light of new institutional and technological developments, which have given rise to questions of interpretation from States and international organizations, including rights of access to cost recovery and the ICAO satellite broadcasts.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Impact of new institutional developments in the provision of meteorological services for international air navigation (ANC Task No. MET-9205)	Amendments to Annex 3 C-WP (Target date: 1Q 01) Guidance material to Doc 8896 (Target date: 3Q 00)	B.1	B

2.9.11 Sub-programme: **Regional air navigation plans and supplementary procedures**

(Strategic Action Plan: *D.2 Further development of sub-regional approach and integration of planning and implementation process for CNS/ATM into regional air navigation planning mechanism; D.3 Enhancement of inter-regional co-ordination for integrated and co-ordinated implementation of Regional Air Navigation Plans; D.7 Responding to identified safety shortcomings in the air navigation field*)

- a) **Objectives:** Provide assistance for the development and amendment of regional air navigation plans (ANPs) and regional supplementary procedures (SUPPs).

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Regional planning	Amendments to ANPPs and Doc 7030 (Target date: 3Q 00) Technical support at regional meetings	D.7, D.2, D.3	RA
2. Monitoring regional developments	Amendments to ANPPs	D.7, D.2, D.3	RA
3. Implementation support	Support to States and amendments to ANPPs	D.7, D.2, D.3	RA

2.9.12 Sub-programme: **Co-ordination with World Meteorological Organization (WMO)**
(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Liaise with WMO concerning the provision of meteorological service to international civil aviation to meet operational requirements stated by ICAO.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Co-ordination with WMO on the basis of working arrangements between ICAO and WMO (Doc 7475)	Co-ordination Amendments to Doc 9680 Working papers for WMO Meetings (Target date: 4Q 99, 2Q 00, 3Q 01)	B.1	RA

2.9.13 Sub-programme: **Technical support**
(Strategic Action Plan: *E.6 Environmental protection programme*)

- a) **Objectives:** Provide technical support to States, international organizations and other parts of the Organization on matters relating to aeronautical meteorology, including seminars, workshops and symposia.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States	Advice and assistance		RA
2. Technical support to other ANB sections	Advice and assistance		RA
3. Technical support to other ICAO bureaux	Advice and assistance	E.6	RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance		RA

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- | | | |
|--|--|----|
| 5. Liaison with international organizations and other agencies | Co-ordination | RB |
| 6. Planning and conducting seminars/workshops | Assist implementation, including working papers and reports for seminars/workshops | RA |

2.10 PROGRAMME: OPERATIONS/AIRWORTHINESS (OPS/AIR)

- a) **Objectives:** 1) Maintain the currency of Annexes 5, 6, 7, 8, 16 and 18 and related documents, particularly the PANS-OPS. Undertake studies and provide guidance on matters related to airworthiness, operations, aircraft engine emissions, the transport of dangerous goods, the prevention of controlled flight into terrain occurrences, units of measurement, aircraft nationality marks and manage the universal ICAO Safety Oversight Audit Programme. Monitor and update the operations part of regional air navigation plan publications (ANPPs) and supplementary procedures (SUPPs).

2) Provide instructional expertise in the seminar programme, e.g. flight operations, design and construction of instrument flight procedures (PANS-OPS) and safe transport of dangerous goods. Assist and process data for States, using ICAO's collision risk model, to determine safe flight altitudes/heights taking into account prevailing obstacles in the approach and missed approach flight paths.

SUMMARY FOR PROGRAMME 2.10: OPS/AIR

REGULAR BUDGET - RESOURCE REQUIREMENTS*

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	108/108	96/84	1 138		1 138			
2000	108/108	96/84	1 165		1 165			
2001	108/108	96/84	1 194		1 194			

* Excludes \$ 1 540 000 in 1999, \$ 1 591 000 in 2000 and \$ 1 645 000 in 2001 for the part of the universal safety oversight audit programme to be funded by cash surplus (see Major Programme IX for details).

2.10.1 Sub-programme: Programme management

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and developments.

2.10.2 Sub-programme: Maintenance of Annexes and related documents

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Analyse the adequacy of the provisions of Annex 6 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes and analyse differences received with regard to the implementation of SARPs.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Annex 6	Amendments to Annex 6 (Target date: 4Q 00)	B.1	RA
2. Analysis of differences between national regulations and international Standards	Supplements to Annex 6	B.1	RA
3. Updating of Annex related documents	Amendments to Annex related documents	B.1	RA
4. Development of guidance material on the avoidance of CFIT and policy for the use of ground proximity warning systems (GPWS)	Amendments to Annex 6 (Target date: 4Q 99) New circular or manual (Target date: 1Q 99)	B.1	RA
5. Manual on aircraft de-icing	Update manual (Target date: 1Q 99)	B.1	RA
6. Development of a safety oversight manual	New manual (Target date: 4Q 99)	B.1	RA
7. Development of safety oversight training material	New manual (Target date: 4Q 99)	B.1	RA

2.10.3 Sub-programme: **Instrument flight operations**

(Strategic Action Plan: *A.4 Seminars, workshops and symposia; B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Develop operational procedures and cockpit instrumentation requirements for the microwave landing system (MLS) and future navigation and communication systems; develop provisions related to the design of instrument flight procedures, including the associated obstacle clearance criteria. These procedures will be based upon the navigation systems currently in use and those planned for the future.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Review of instrument approach and landing minima in the light of new developments in head-up displays, enhanced vision and global navigation systems	Amendments to Doc 9365	B.1	
2. MLS obstacle clearance criteria and instrument flight procedures (ANC Task No. OPS-8106)	Amendments to PANS-OPS Doc 8168 (Target date: 2Q - 99, 02)	B.1	A
3. Flight procedures and obstacle clearance criteria based on RNAV systems (ANC Task No. OPS-8502)	Amendments to PANS-OPS Doc 8168 (Target date: 2Q 99)	B.1	A

4. Review of restructuring Procedures for Air Navigation Services — Aircraft Operations (PANS-OPS) (Doc 8168)	Restructured PANS-OPS Doc 8168 (<i>Target date: 2Q 99</i>)	B.1	RB
5. Updating of Instrument Flight Procedures Construction Manual (Doc 9368); Manual on the Use of the Collision Risk Model (CRM) for ILS Operations (Doc 9274); and Template Manual for Holding, Reversal and Racetrack Procedures (Doc 9371)	Amendments to manuals Doc 9368 Doc 9274 Doc 9371 (<i>Target date: 1Q - 99, 01</i>)	B.1	RA
6. Planning and conducting PANS-OPS workshops/seminars	Planning and training in the use of PANS-OPS Doc 8168	A.4	RA
7. CRM service	Obstacle clearance altitudes/heights to States Doc 9274	B.1	RA

2.10.4 Sub-programme: **Dangerous Goods**

(Strategic Action Plan: *A.4 Seminars, workshops and symposia; B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Support the work of the permanently established Dangerous Goods Panel (DGP). Develop procedures for the safe transport of dangerous goods by air, ensuring that these procedures are co-ordinated with the provisions of other international organizations and modes of transport and with current practices.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Support work of DGP	Panel recommendations DGP		RA
2. Updating of Annex 18 and Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)	Amendments to Annex 18 and Technical Instructions (Doc 9284) (<i>Target date: 1,4Q 99</i>)	B.1	RA
3. Liaison with UN, IAEA, IATA	Co-ordination Annex 18 Doc 9284		RA
4. Updating of Dangerous Goods Training Programme (Doc 9375) and Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods (Doc 9481)	Amendments to manuals Doc 9375 Doc 9481 (<i>Target date: 1,2Q 99</i>)	B.1	RA

5. Planning and conducting seminars/workshops	Training in use of Doc 9284	A.4
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2.10.5 Sub-programme: Airworthiness

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) **Objectives:** Improve and expand specifications on continuing airworthiness in Annex 8 and the Airworthiness Technical Manual (Doc 9051). Continue monitoring matters relating to the certification aspects of airworthiness, including the certification of automation system and develop amendments to ICAO documents, as necessary.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Continuing airworthiness (ANC Task No. OPS-7801)	Amendments to Annexes 6, 8 and manual (Doc 9051) (<i>Target date:</i> 4Q 01)	B.1	A
2. Continuing Airworthiness Manual	Continuing Airworthiness Manual (<i>Target date:</i> 4Q 99)	B.1	RA
3. Publication of differences between national regulations and the international Standards contained in Annex 8	Supplements to Annex 8 (<i>Target date:</i> 1Q 99)		RA
4. Updating of Airworthiness Technical Manual (Doc 9051); Manual of Procedures for an Airworthiness Organization (Doc 9389); Manual on Aerial Work (Doc 9408)	Amendments to manuals Doc 9051 Doc 9389 Doc 9408 (<i>Target date:</i> 4Q 99)	B.1	RA
5. Incorporation of security into aircraft design (ANC Task No. OPS-8904)	Amendments to Annex 8 and manuals (Doc 9051, Doc 8973) (<i>Target date:</i> 4Q 01)	B.1	A

2.10.6 Sub-programme: Aviation environmental protection

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.6 Environmental protection programme*)

- a) **Objectives:** 1) Process proposals for amendment of Annex 16 and related documents developed by the Committee on Aviation Environmental Protection (CAEP) and continue study of technological developments that could lead to further reductions in noise and emissions.

2) Continue monitoring matters relating to the certification aspects of airworthiness, including the certification of automatic systems and develop amendments to ICAO documents, as necessary.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Aircraft noise certification (ANC Task No. OPS-6801)	Amendments to Annex 16, Vol. I (<i>Target date:</i> 4Q 00)	B.1	A
2. Aircraft engine emissions (ANC Task No. OPS-7701)	Amendments to Annex Annex 16, Vol. II (<i>Target date:</i> 4Q 00)	B.1	A
3. Updating of Environmental Technical Manual on the use of Procedures in the Noise Certification of Aircraft (Doc 9501); Assessment of Technological Progress made in Reduction of Noise from Subsonic and Supersonic Jet Aeroplanes (Circ. 157); and Recommended Method for Computing Noise Contours around Airports (Circ. 205)	Amendments to manual and circulars Doc 9501 Circular 157 Circular 205	B.1	RA
4. Co-ordinate ICAO information on environmental matters	Co-ordination		RB

2.10.7 Sub-programme: **Registration marks**

(Strategic Action Plan: *B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required*)

- a) *Objectives:* Analyse the adequacy of the provisions of Annex 7, initiate amendment action where appropriate to ensure compatibility with other Annexes and publish differences received with regard to the implementation of the Annexes.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Annex 7	Amendments to Annex 7	B.1	RC
2. Publication of the list of aircraft nationality marks, national emblems and common marks	Supplement to Annex 7 (<i>Target date:</i> 1Q 99)	B.1	RC
3. Publication of differences between national regulations and international Standards contained in Annex 7			RC

2.10.8 Sub-programme: **Universal safety oversight audit programme***

(Strategic Action Plan: *A.1 Safety oversight programme; A.4 Seminars, workshops and symposia*)

- a) **Objectives:** To introduce regular, mandatory safety audits of all States to determine whether they fulfil their safety oversight obligations in connection with the provisions contained in Annexes 1, 6 and 8. These audits are to be carried out by ICAO on a systematic and harmonized basis with the greatest possible degree of transparency to be achieved in the release of audit reports.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1) Manage the programme	Efficient use of resources	A.1	RA
2) Conduct initial and follow-up safety oversight audits of States	Identify deficiencies Resolution A29-13	A.1	RA
3) Provide expert advice and assistance	Compliance with SARPs Resolution A29-13	A.1	RA
4) Conduct safety oversight seminars/workshops	Advice and assistance (<i>Target date:</i> 1,2,3Q - 99, 00, 01)	A.4	RA
5) Select and train the assessment teams	Competent team members	A.1	RA
6) TO/OPS co-ordination meetings	(<i>Target date:</i> 3Q - 99, 00, 01)		

* See also Major Programme IX: Universal safety oversight programme to be funded by cash surplus.

2.10.9 Sub-programme: **Prevention of controlled flight into terrain (CFIT) occurrences**

(Strategic Action Plan: *A.4 Seminars, workshops and symposia; B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.4 Controlled flight into terrain programme*)

- a) **Objectives:** Manage the CFIT prevention programme.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Monitor the incidence of CFIT accidents world-wide and make recommendations as appropriate	Assessment of progress and success of the CFIT prevention programme. Recommendations for action.	E.4	A
2. Co-ordinate international implementation of recommendations developed by the industry task force on CFIT	Amendments to: Annex 2, Annex 3, Annex 4, Annex 6, Parts I and II, PANS-OPS, Volumes I and II, PANS-ATM and associated ICAO manuals	B.1	A

3. Provide assistance to States as necessary to reduce the occurrence of CFIT accidents	Advice and assistance	A.4	A
4. Planning and co-ordinating CFIT workshops/seminars		A.4	A

2.10.10 Sub-programme: **Technical support**(Strategic Action Plan: *A.1 Safety oversight programme; A.4 Seminars, workshops and symposia*)

- a) **Objectives:** Provide technical support to States, international organizations and other parts of the Organization on matters relating to aircraft operations, airworthiness, aircraft engine emissions, the safe transport of dangerous goods, the prevention of controlled flight into terrain occurrences, units of measurements, aircraft nationality marks and the improvement of safety oversight.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States	Advice and assistance	A.1	RA
2. Technical support to other ANB sections	Advice and assistance		RA
3. Technical support to other ICAO bureaux	Advice and assistance		RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance		RA
5. Liaison with international organizations and other agencies	Co-ordination		RB
6. Planning and conducting seminars/workshops	Assist implementation	A.4	RA

2.11 PROGRAMME: **PERSONNEL LICENSING AND TRAINING AND AUDIO-VISUAL AIDS (PEL/TRG)**

- a) **Objectives:** 1) Maintain the currency of Annex 1 and related documents, particularly the ICAO Training Manual. Co-ordinate ICAO Flight Safety and Human Factors programme and the TRAINAIR programme. Manage the work of two study groups. Provide advice and guidance to States on personnel licensing and training matters, development of training standards and the production of training syllabi and courses for flight crew members, air traffic services personnel, aircraft maintenance technicians and other personnel whose duties are related to aircraft flight and ground operations.

2) Produce and distribute audio-visual aids (posters, transparencies, audio slides and videos for assisting in the implementation of ICAO Standards and Recommended Practices; disseminating safety-related information not readily available from other sources; training in ICAO-sponsored schools under the technical co-operation programme, as well as in other aviation training institutions; and presenting ICAO's views at meetings, workshops and seminars.

SUMMARY FOR PROGRAMME 2.11: PEL/TRG

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS ¹	STAFF Strength	GEN. OP. EXPENSES ²	EQUIPMENT	OTHER
1999	101/60	84/72	800	10	749	41		
2000	102/60	84/72	825	18	765	42		
2001	102/60	84/72	824		781	43		

¹ Amounts relate to Global Flight Safety and Human Factors Symposium in 1999 and TRAINAIR Co-ordination Conference in 2000

² Amounts relate to the AVA programme

2.11.1 Sub-programme: **Programme management**

- a) **Objectives:** Plan, develop and supervise the implementation of the programme; co-ordinate administrative aspects related to the execution of the programme and personnel matters; maintain awareness of technical trends and developments.

2.11.2 Sub-programme: **Maintenance of Annexes and related documents**

(Strategic Action Plan: *A.1 Safety oversight programme; B.2 General review of the structure of ICAO Annexes and the development and consultation process regarding SARPs and amendments thereto*)

- a) **Objectives:** Analyse the adequacy of the provisions of Annex 1 and related documents, initiate amendment action when appropriate, ensure compatibility with other Annexes and analyse differences received with regard to the implementation of SARPs.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Updating of Annex 1	Amendment 163 to Annex 1 (Target date: 4Q 01)	A.1, B.2	RA
2. Analysis of differences between national regulations and international Standards	Supplements to Annex 1 (Target date: 4Q - 99, 00, 01)	A.1, B.2	RA

2.11.3 Sub-programme: **Flight safety and Human Factors**

(Strategic Action Plan: *A.4 Seminars, workshops and symposia; B.1 Maintaining the currency of 18 existing Annexes to the Convention and developing new Annexes as required; E.3 Flight safety and human factors programme*)

- a) **Objectives:** Improve safety by making States more aware and responsive to the importance of Human Factors in civil aviation.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Flight Safety and Human Factors (ANC Task No. PEL-9001)	Amendments to PANS/RAC (Target date: 4Q 99) Amendments to PANS/OPS (Target date: 4Q 99) Human Factors Seminars (Target date: 4Q - 99, 00, 01) World-wide Human Factors Symposium (Target date: 2Q 99)	A.4, B.1, E.3	A

2.11.4 Sub-programme: **Personnel licensing**

(Strategic Action Plan: *A.1 Safety oversight programme; A.4 Seminars, workshops and symposia*)

- a) **Objectives:** Maintain and develop guidance material related to Annex 1.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Personnel licensing element of the safety oversight programme	Assessment missions Seminars and workshops Annual review of Safety Oversight Training Programmes for seminars and associated documents (<i>Target date:</i> 4Q - 99, 00, 01)	A.1, A.4	A
2. Developing of personnel licensing guidance material	Amended Manual of Procedures for Establishment and Management of a State's Personnel Licensing System (<i>Target date:</i> 4Q 99)		RA

2.11.5 Sub-programme: **Personnel training**

(Strategic Action Plan: *A.1 Safety oversight programme; A.4 Seminars, workshops and symposia; G.2 TRAINAIR programme*)

- a) **Objectives:** Improve and standardize the quality of aviation training world-wide through the TRAINAIR Programme by co-ordinating and developing the TRAINAIR network, administrating the sharing pool of standardized training packages (STPs), including operation of the network system and quality control, guiding training centres in operating an effective instructor development programme, providing technical advice and guidance regarding the introduction of modern training practices and technologies.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. TRAINAIR programme	Monitor member training centres development of 30 to 40 new Standardized Training Packages per year (<i>Target date:</i> 4Q - 99, 00, 01) Conduct yearly technical support missions to assist member training centres in the development of Standardized Training Packages (<i>Target date:</i> 4Q - 99, 00, 01) Edition 3 of the Training Development Guidelines (<i>Target date:</i> 4Q 99) Revised Course Developers Workshop (<i>Target date:</i> 2Q 00) Annual Course Developers Seminars (<i>Target date:</i> 3Q - 99, 00, 01) Regional TRAINAIR Co-ordination Conference (<i>Target date:</i> 2Q 99) Global TRAINAIR Co-ordination Conference (<i>Target date:</i> 2Q 00) Conduct six TRAINAIR Participation Assessment Missions per year (<i>Target date:</i> 4Q - 99, 00, 01)	A.1, A.4, G.2	RA
2. Training support	Update of Part B-5 (Integrated Commercial Pilot Course) of the Training Manual (Doc 7192) (<i>Target date:</i> 4Q 99) Aircraft Maintenance Engineers Training Manual (Doc 7192) (<i>Target date:</i> 4Q 00)	G.2	RA
3. Human resource planning (Task PEL-9601)	Model for human resource planning and training and associated guidance material (<i>Target date:</i> 2Q 99)	G.2	B

2.11.6 Sub-programme: **Audio-visual aids**
(Strategic Action Plan: —)

- a) **Objectives:** Assist States in the implementation of ICAO SARPs by developing and producing audio-visual training aids (multi-media support) and to produce audio-visual support to ANB staff participating in conferences, seminars, meetings and workshops.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Developing new audio-visual training aids	Produce two training videos (Target date: 2Q 00, 4Q 01) Prepare one training poster per year (Target date: 4Q - 99, 00, 01) Produce 2 inter-active CDs per year (Target date: 2,4Q - 99, 00, 01)		RA
2. Producing audio-visual aids, including multi-media presentations, for international conferences and meetings, the Assembly, as well as technical seminars and workshops	Produce two multi-media presentations (Target date: 2Q 00, 3Q 01) Prepare short videos, slides and transparencies		RA

2.11.7 Sub-programme: **Technical support**
(Strategic Action Plan: —)

- a) **Objectives:** Provide technical support to and maintain liaison with States, international organizations and other parts of the Organization.

b) <i>Programme elements:</i>	Output, reference and target date	SAP-Key Activity	Priority
1. Technical support to States	Advice and assistance		RA
2. Technical support to other ANB sections	Advice and assistance		RA
3. Technical support to TCB and other ICAO bureaux	Advice and assistance		RA
4. Technical support to Regional Affairs Office and regional offices	Advice and assistance		RA
5. Liaison with international organizations and other agencies	Co-ordination and advice		RB
6. Planning and conducting seminars and workshops	Assist in the implementation of six seminars/workshops per year (Target date: 4Q - 99, 00, 01)		RA

2.12 PROGRAMME: MULTI-DISCIPLINARY OR UNSPECIFIED AIR NAVIGATION (AN) MEETINGS

2.12.1 This is part of the over-all triennial programme of air navigation meetings for 1999, 2000 and 2001, prepared for planning and budgetary purposes. The estimated costs for various specified air navigation meetings are included in the relevant sections of the Air Navigation Bureau. Multi-disciplinary or unspecified meetings including their corresponding estimated costs, are provided below:

Year	Meeting	Estimated cost
1999	RAN (unspecified)	94 000
	6 panel meetings	32 000
	Unspecified	4 000
	Provision for language services for meetings	543 000
2000	LIM RAN (special)	76 000
	5 panel meetings	27 000
	Unspecified	4 000
2001	5 panel meetings	27 000
	Council Technical Committee	10 000
	Unspecified	4 000

SUMMARY FOR PROGRAMME 2.12: MULTI-DISCIPLINARY OR UNSPECIFIED AN MEETINGS

REGULAR BUDGET

REGULAR BUDGET - RESOURCE REQUIREMENTS

YEAR	WORK MONTHS Strength		TOTAL COST (\$ 000)	DIRECT COSTS (\$ 000)				
	P	GS		MEETINGS	STAFF Strength	GEN. OP. EXPENSES	EQUIPMENT	OTHER
1999	—	—	673	673				
2000	—	—	107	107				
2001	—	—	41	41				